IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of	:	Julian Mitchell et al.
Serial No.	:	10/037,043
Filed	:	September 11, 2001
For	:	Middlebox Control
Examiner	:	Bengzon, Greg C
Art Unit	:	2144
Customer number	:	
Attorney Docket No.	:	920584-904966

REPLY BRIEF

Honorable Director of Patents and Trademarks
P O Box 1450
Alexandria, VA 22313-1450

Dear Sir

This Reply is filed in view of the Examiner's Answer of May 20, 2008 in this appeal.

Applicants note that the system described in Xu is equivalent to the prior art system acknowledged in the Background of the instant application.

The Examiner equates the CCM Server in Xu to the middlebox control node claimed in Claim 1. Indeed, the Examiner even states that the "Call Control Manager (CCM) server of Xu [is able] to recognize and control the NAT/firewall". Applicants respectfully disagree.

The CCM Server is described in Xu as "providing the CCM RTP channel to the proxy server" (paragraph 43) and "operating as a relay server [between the first client and the second client]" (paragraph 61). Nowhere does Xu disclose that the CCM is used to send control messages to the first middlebox.

Rather, control messages are sent by the proxy servers to the CCM to control the set up of the CCM RTP channels (see, for example, Figures 2a to 2c). The proxy servers also contain information regarding the addresses for middle boxes (see, for example, Figure 1 and the related description).

Thus, the proxy servers of Xu can be seen to have the features of both the identity-providing node and the control node. Therefore, Xu describes an implementation as acknowledged in the Background section of the instant application. Hence, Xu, cannot disclose that the middlebox-identity-providing node is separate from the middlebox control node as required by present Claim 1.

The Examiner further indicates that the SDP messages described in Huitema could be used by the CCM to control the NAT/firewall. As discussed above, the channel control is implemented by the proxy server in Xu which initiates the setting up of channels between NATs. The CCM is disclosed as "operating as a relay server". The skilled person, on reading Xu, would not learn to cause the CCM to use SDP to control the NAT as they would understand that the CCM is merely acting as a message relay passing on datagrams that it receives from one party to another (ref).

Additionally, as the proxy server in Xu is setting up the channels between the first and second clients and the proxy server determines the NAT addresses to send messages to, the skilled person would not learn that a message indicating the NAT addresses has to be sent to a control node. Thus, there would be no incentive to the skilled person to introduce the SDP message of Huitema into the system of Xu to transmit an identity of a NAT.

In the last paragraph of page 7 the Examiner implies that the application server in Sollee is the equivalent of the middlebox control node of the present invention and therefore the equivalent of the CCM in Xu. The Examiner also implies that the media portal of Sollee is the equivalent of the middlebox identity providing node of the present invention or the proxy server in Xu.

Applicants note that the media portal of Sollee retains a mapping between the originating endpoint address and port and the destination endpoint address and port.

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The mapping is temporary and is deleted when the call session is terminated (see, for example, paragraph 38). Thus, there is no permanent retention of the addresses.

Further, the addresses stored in the mapping in the media portal are obtained from an MGCP message sent from the application server to the media portal (see paragraphs 91 to 104). Thus, it can be seen that the media portal is not determining the identity of a middlebox as claimed in Claim 1 but rather receives a message from a middlebox control node indicating the identity of the middleboxes.

Thus, it is the application server which is responsible for both determining the identity of the NAPTs and also sending control messages to the middlebox. Hence, as with the system described in Xu, the application server serves the functions of both the middlebox identity providing node and the middlebox control node. Thus, the middlebox identity providing node and the middlebox control node cannot be said to be separate as claimed in Claim 1.

Finally, the Examiner on page 22, admits that Sollee does not explicitly disclose that the media portal is sending the public NAPT address to another entity. The purpose of the middlebox identity providing node is to send the NAPT address to another entity so that the other entity does not have to maintain its own address book. In this way multiple entities can use the middlebox identity providing node as an "address book" reducing the burden on the network for maintaining up to date addresses. Thus, the combination of Xu, Huitema and Sollee cannot be said to disclose or even suggest the present invention.

Furthermore, on page 22 the Examiner has cited a further piece of prior art (Molitor) which has not been cited in any previous Office Actions to support his assertion that this is merely a trivial factor. The belated citation demonstrates the weakness of the Examiner's position.

Additionally, in the Applicants' opinion the use of separate middlebox identity providing nodes and control nodes is not trivial. Rather, the standard method, as described in both Xu and Sollee is for control nodes to maintain their own addresses
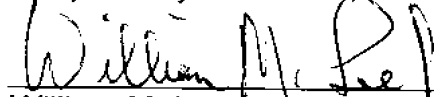
for NATs in the network. Applicants submit that there is no incentive presented in either reference for the skilled person to separate the two functions.

Despite the large number of references cited by the Examiner against Claim 1, Xu, Huitema, Sollee and Molitor (see page 22 of the Examiner's response), nowhere in the prior art cited by the Examiner is it disclosed or even suggested that the functions of the middlebox control node and the middlebox identity providing node are separate as claimed in Claim 1. By providing the functions separately, the flexibility of the network is increased as changes or additions to the middle boxes connected to the network need only be notified to identity providing nodes.

It is therefore submitted, again, that the Examiner's rejections of the application are in error, and should be reversed. The resolution of this appeal is therefore awaited.

July 18, 2008

Respectfully submitted,

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